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Effect of Oral Administration of Ethanolic Extracts of Propolis on Passive Avoidance Learning and Memory in Adult Male Mice

Gheibi N[1], Shahbazi J[2], Zarmohammadi Z[2], Alipoor Heydari M[3], Kakaeie E[4], Sofiabadi M[5*]

1. Department of Biotechnology, Faculty of Paramedicine, Qazvin University of Medical Sciences, Qazvin, Iran
2. Department of Anesthesiology, Faculty of Paramedicine, Qazvin University of Medical Sciences, Qazvin, Iran
3. Department of Community Medicine, Faculty of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran
4. Institute of Applied Social and Security Sciences, Tehran, Iran
5. Department of Physiology, Faculty of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran

**** Corresponding author.*** Tel: +982813330534, Fax: +982813324970, E-mail: Mohasofi@yahoo.com

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ABSTRACT

Background & objectives: Propolis is a natural product with powerful antioxidant and therapeutic effects. The aim of this study was to investigate the effect of propolis on passive avoidance memory in adult male mice.

***Methods*:** In this study, 40 adult male mice were divided into 8 groups, including control, sham (solvent) and 3 treatment groups orally treated with 50, 100 and 200 mg/kg of propolis, respectively for two weeks before and one week after treatment. Then, passive avoidance learning and memory were recorded in timescales of 24 and 48 hours, 4 days and a week after shock by the shuttle box. Data were analyzed by ANOVA and Dunnett's post hoc tests, and $p<0.05$ was considered significant.

Results: Administration of propolis (50 mg/kg) significantly increased the dark chamber entering time at intervals of 24 and 48 hours ($p<0.001$) and at concentrations of 100 and 200 mg/kg in all time periods after the shock ($p<0.001$).

Conclusion: Oral administrations of propolis can improve learning and memory dose-dependently in adult male mice.

Keywords: Propolis; Passive Avoidance Memory; Mice.